

Program for Optimal Raw Mix Design

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1. MIXOPT

1.1 OPTIMAL RAW MIX DESIGN ON PERSONAL COMPUTER

MIXOPT is a comprehensive program for the optimal design of raw mixes and determination of product characteristics. It is tailored to the specific needs of the cement industry and offers a wide range of applications in the field of raw meal preparation and product design:

- ◆ Up to 9 components may be included to determine a raw mix of desired characteristics.
- ◆ Fixed values or ranges may be set for chemical (e.g. Na₂O-equivalent) and mineralogical (e.g. C₃A) constraints of product characteristics.
- ◆ The component quantities can also be restricted. This might be necessary in case of limited availability or for fuel ash.
- ◆ Lowest cost product is determined within given product constraints if costs of components are entered
- ◆ Alternatively to cost optimisation, optimisation or minimisation of a particular chemical component is possible.
- ◆ Blending of materials or determination of raw meal, clinker and cement characteristics can be accomplished apart from raw mix optimisations.
- ◆ Program includes data base and print facilities.

Typical MIXOPT applications are illustrated on the following pages.

The knowledge required to operate the programs can quickly be acquired. Dialogue, window menu selection, and user's help facilities make it very user-friendly. Previous computer knowledge is not required.

The program or further information is provided by:

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2. PROGRAM FOR OPTIMAL RAW MIX DESIGN

2.1 FACILITIES

- ◆ BLENDING OF COMPONENTS
- ◆ DETERMINATION OF PRODUCT CHARACTERISTICS
 - Raw Max
 - Clinker
 - Cement

- ◆ RAW MIX DESIGN WITH UP TO 9 COMPONENTS
 - Fixed Value or Range for Product Constraints of:
 - Limitation of Component Concentrations
 - Input Specification such as:
 - Reference to Moist or Dry Components
- ◆ COST OPTIMISATION OF PRODUCT
- ◆ DATA BASE FACILITIES FOR:
 - Components
 - Product Constraints (e.g. for different clinker types)
 - Calculated Product
- ◆ PRINT FACILITIES
 - Single Mix Design
 - Compilation of Mixes
- ◆ GENERAL USER FACILITIES
 - Insertion and Copying Mode
 - Title Specification
 - File Clearing
 - Help

Fig. 1 Blending of Components.

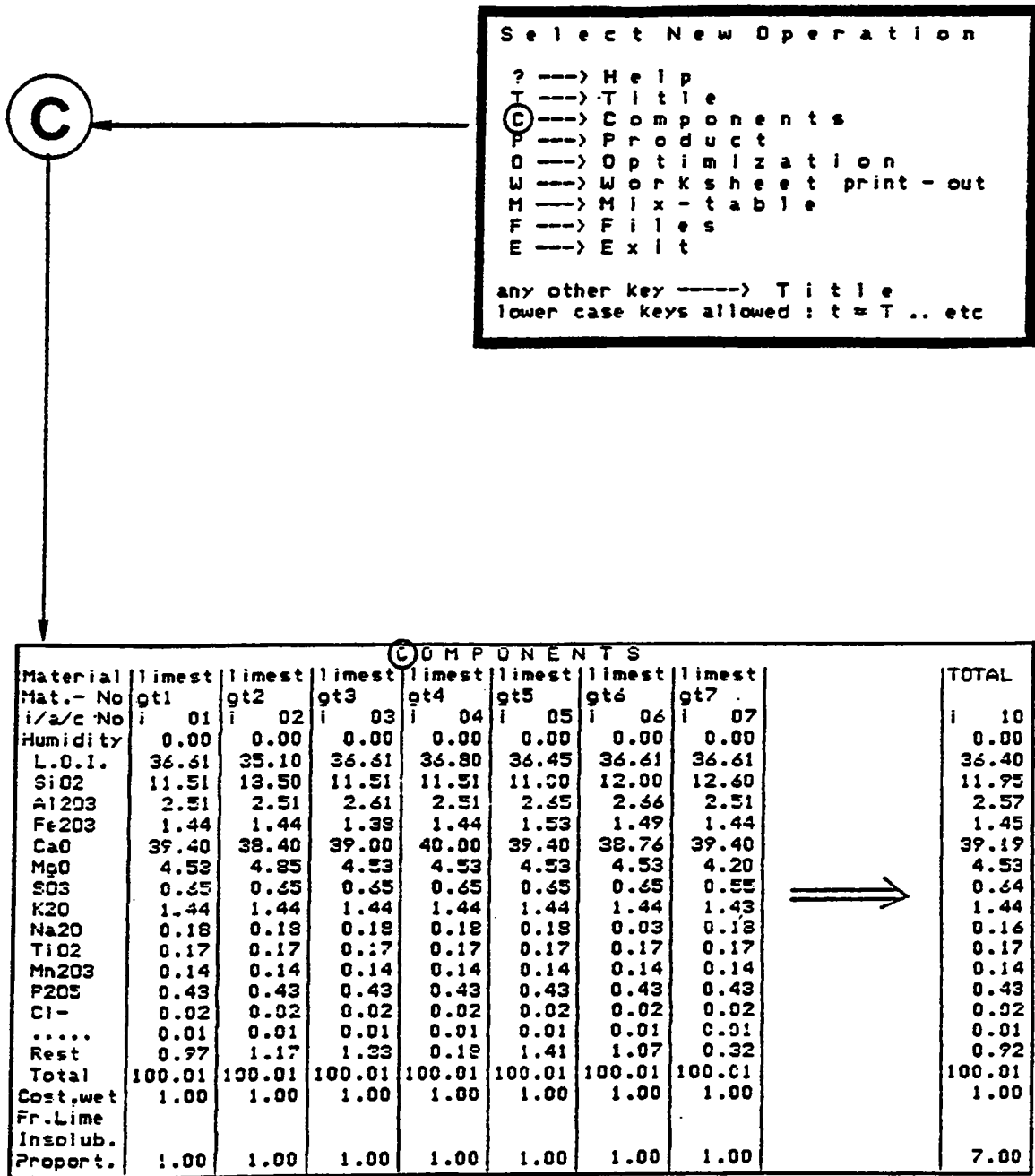


Fig. 2 Product Characteristics.

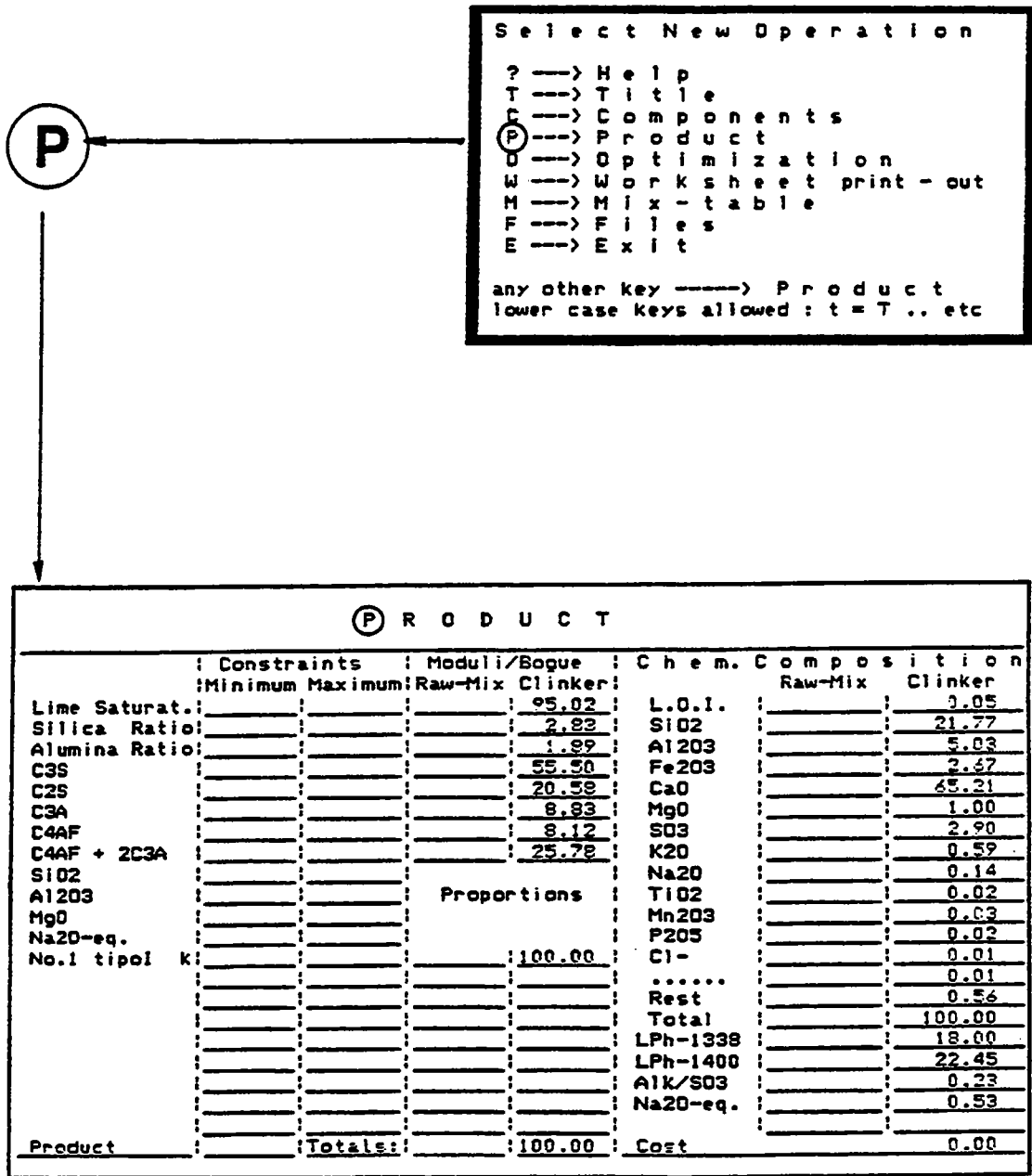


Fig. 3 Mix Optimisation.

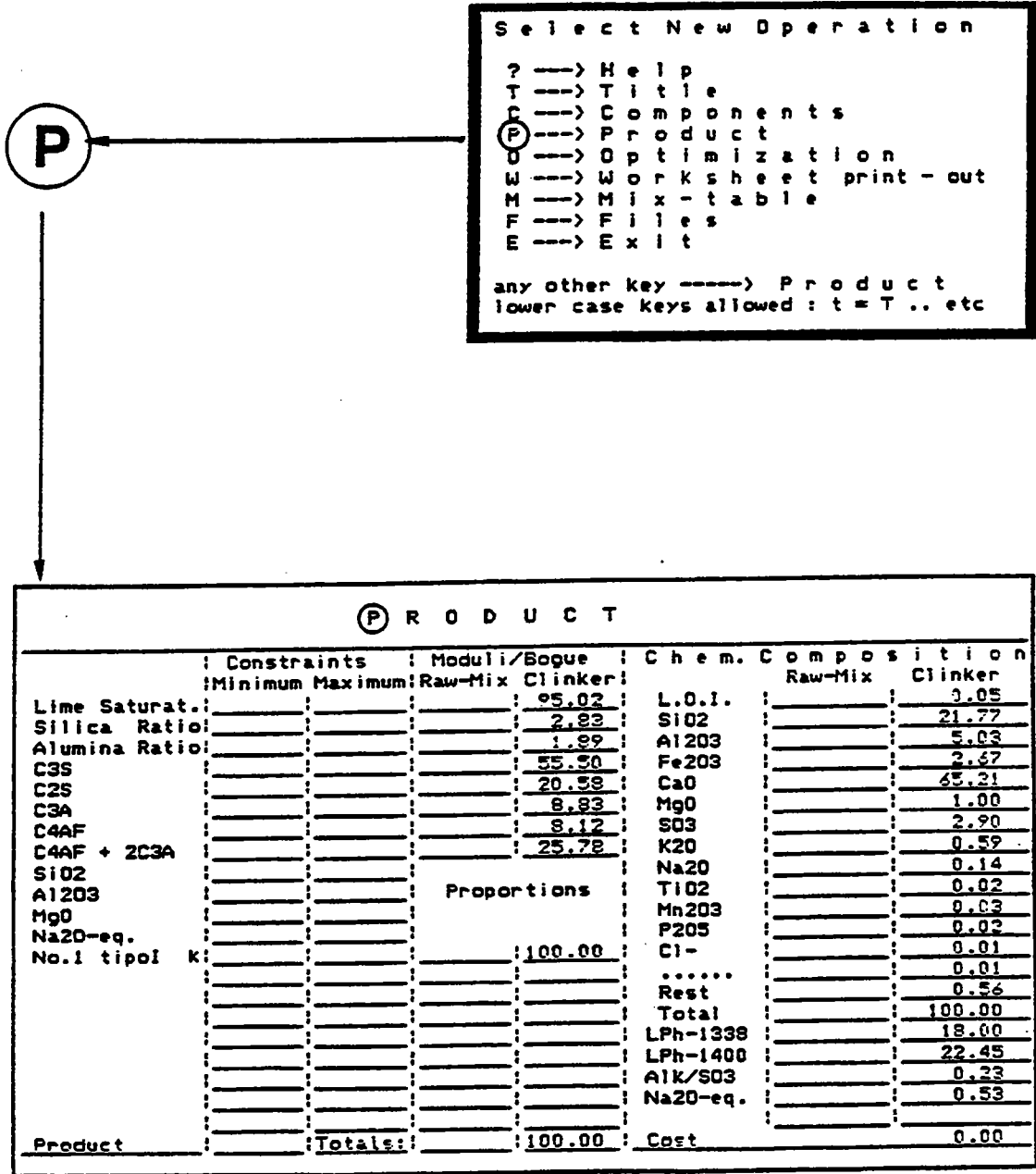


Fig. 4 Compilation of Results.

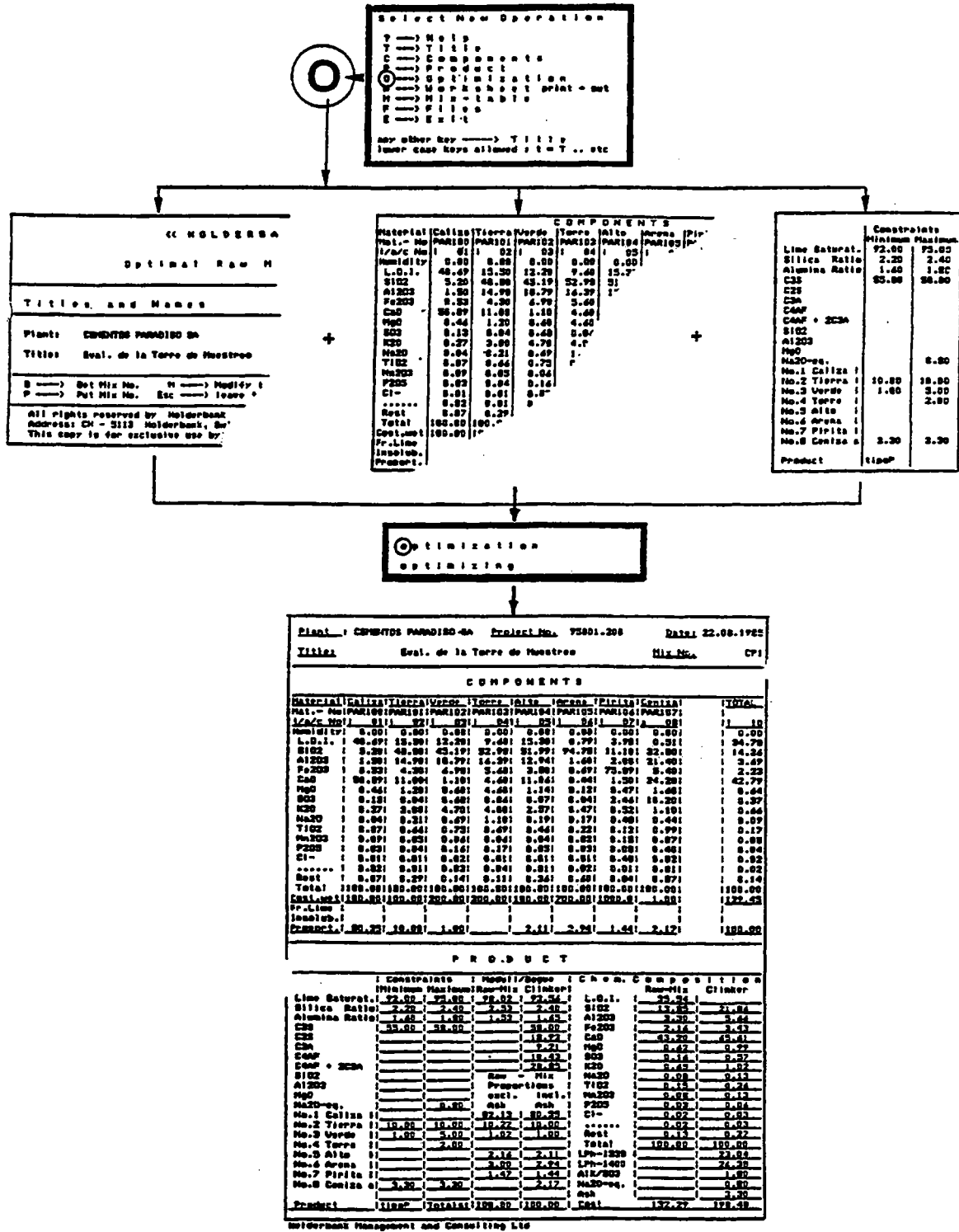


Fig. 5 Storage of Data, Constraints and Results.

